



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

Two new Species.

BY A. A. EATON.

On August 26, 1896, while collecting the peculiar large form of *Spartina patens* growing on the border of the marsh at Seabrook, N. H., I noticed a taller, more slender plant growing in a clump of bushes. An examination showed it had many peculiarities, and an extended search on the 27th revealed numerous patches, and also showed beyond a doubt that it was a heretofore overlooked species, with external appearance of *S. patens*, with which it has doubtless been confounded. After once noticing it, however, one can distinguish it at sight.

Though growing in rough ground just at the edge of the marsh where it is never mown, it bears an abundance of leaves and seems to be preferred by cattle to *S. patens*, as I have repeatedly seen it cropped to the woody base, while *S. patens* growing beside it was untouched. The reason for this may be that it does not secrete so much salt on the upper surface of the leaves, owing to its growing where there is less in the soil. I will mention in passing that salt on various grasses growing in salt marshes is popularly supposed to be the residue from evaporated sea water. This is not so. That it is a true excretion of the plants is shown by the fact that in dry seasons on a low run of tide it is most abundant, and sea water will remove it as well as rain. Moreover, I have seen *Sporobolus airoides* and *Distichlis spicata* growing in alkaline soils in San Joaquin valley, California, where they had been several months without rain, whose leaves were more copiously supplied with salt crystals than I have seen *Spartina stricta* even, in the eastern marshes.

SPARTINA CAESPITOSA. "Highwater Grass."

Plants caespitose, forming tussocks 3 dm. across, which are scattered 6-9 dm. or more apart. Rootstocks 2.5 cm. or less long, closely covered with short, broad, hard, shining mucronate scales, imbricated in two lateral rows, and sending up several branches at the end: culms very many, clustered 4-15 together at tip of rootstock, 6-12 dm. high, very smooth and glabrous, purplish where

exposed, slender at base, usually lying flat at maturity, and geniculate above at two upper joints: sheaths smooth, much exceeding internodes below, equalling them or a little shorter above: leaves 4 or 5, usually secund, approximate near middle of stem, open, with distinct midrib, often keeled, about 6 mm. broad, involute when dry, glaucous above, yellowish green below, becoming reddish or purple as they ripen, lowest 1 dm. long, dead at flowering time; middle about equalling the culm, 2-6 dm. long, upper 2.5-10 cm. long, reaching base or middle of panicle, all with long involute scabrous points: (there is a small joint or knot in the leaf at about the upper third, more noticeable when dry, above which several of the nerves are scabrous, and the leaf tapers to a long filiform scabrous point) spikes usually 3, often 8, 2.5-3.5 cm. long, spreading, becoming erect but not appressed, 20-30-flowered, the common rachis very bristly on edges above, roundish and nearly smooth below: spikelets 1-1.2 cm. long, sessile or nearly so, lower glume two-thirds length of upper, or with its short rough awn point five-sixths as long, rough scabrous on back: second glume very rough-scabrous on back and gradually rough awn-pointed, the edges scabrous above top of palet: third glume with midvein rough-scabrous above middle, ending below the tip in a very scabrous point: palet hyaline, little or not at all longer than upper glume, two-thirds as long as middle one, boat shaped, finely scabrous above on midvein.

Differs from any form of *S. patens* by the cespitose habit, long, open, filiform-tapering, scabrous, erect leaves, scabrous common rachis, flowers sessile in lower glume, (stalked in *S. patens*) and empty glumes both more scabrous and rough awn-pointed, the second very prominently so.

In brackish, rather dry and firm soil at borders of marsh where wet by tide a few times a year, associated with *Elymus Virginicus*, *Panicum virgatum*, *Eleocharis rostellata*, and other coarse grasses of such places, often among bushes at border; one tussock at Seabrook, N. H., Aug. 26, 1896, species subsequently traced on both sides of marsh from Hampton, N. H., on the north, to Ipswich, Mass., on the south, most abundant at the causeway, Salisbury, Mass.

Eriophorum gracile Koch. is with us in condition to collect on June 1st. In the spring of 1896 I put off my trip for it till June 12th, when it was dead ripe. On June 29th, I noticed in two localities, Salisbury and Amesbury, Mass., an *Eriophorum* re-

sembling it just coming into flower. I subsequently found it at Byfield, Mass., North Hampton, Hampton Falls, Seabrook, Nottingham, N. H., and several other localities, ranging in time from June 29th, when, as said, it was just developing, to August 10th, when its seed was all shed.

A reference to the fifth edition of Gray's Manual showed it was *E. gracile* var. *paucinerium* Eng. The sixth edition ignores it entirely or combines it with the type, and Britton & Brown, I., 273, figure and describe it as *E. gracile*.

Mr. M. L. Fernald of Harvard, to whom I referred the matter, kindly furnished the important literature on the species and variety, as well as a list of localities as represented by specimens in the Harvard Herbarium. From this it appears that *E. gracile* is spread from Newfoundland to Washington, south to about the 40th parallel, while the other reaches from New Brunswick to Illinois, no account of its being found farther west being at hand ; while Watson (Bot. Cal. 2 : 220) certainly describes *E. gracile*, and Coulter (Text-book Western Bot. 368) may or may not include both. A careful study of an abundance of material from several localities shows this is entitled to specific rank.

Inasmuch as confusion exists as to the characters of *E. gracile*, which is certainly comparatively rare, it is best to give descriptions of both.

ERIOPHORUM GRACILE Koch. Roth. Catal. II (1799) addend 259.

Culms 3-5 dm., slender, terete or nearly so, smooth throughout, sending off from base lateral rhizomes, which become established as new plants and then send up 2-4 very slender channeled triquetrous solid leaves, 1.5-4.5 dm. long, from rather tight nodulose sheaths. The next year the culm is pushed up from within this crown of dead leaves, without any new radical leaves appearing ; culm leaves mostly but one, never more than two, 1.5-2.5 cm. long, solid, bayonet-shaped ; involucre scales 1-2, dull lead colored, the lower usually with a very short triangular-bayonet-shaped point, strongly several-nerved ; spikes 3-4, one usually raised on slender smoothish pedicel, 0.5-5 cm. ; outer scales broadly ovate, narrowing within to lanceolate, obtuse, dull lead or slate colored ; bristles numerous, 1.2-1.5 cm. long.

May 25-June 10.

ERIOPHORUM PAUCINERVIUM (Engelm.).

E. gracile, var. *paucinerivium* Engelm. Am. Jour. Sci. **45**: 105. 1846.

Larger every way than *E. gracile*. Culms 4.5–10 dm., stouter, obtusely three-angled, scabrous above upper leaf, sending off at base after flowering one or more slender rhizomes, each of which develops at tip into a new plant, and sends up 5–6 nodulose leaves 3–7.5 dm. long, 3–4 mm. wide, open, flat, or closed in drying, scabrous margined on a loose, more or less nodulose and fibrillose sheath; culm and 2–3 radical leaves develop next year from center: culm leaves 2 or 3, flat, with solid point sharply triangular in section, keeled below, mostly closing like a book when dry, lower, 2–3 dm. upper 0.5–1.5 dm. long, scabrous on edges: involucre scales 2, larger than *E. gracile*, lower usually 1.2 cm. long, with stiff triangular blade 2.5 cm. long or more; spikes 4–5, larger and more densely flowered than *E. gracile*; one or two usually raised 1.2–2.5 cm. on scabrous pedicels; outer scales ovate, inner narrower, obtuse, light yellowish brown or red tinged, with green midrib; bristles most abundant, 2–2.5 cm. long.

July 1–August 1.

E. paucinerivium was so named by Engelm. to distinguish this plant from the European var. *pleurinervium*. He gives Illinois, Ohio and Pennsylvania as its habitat. The Harvard Herbarium contains specimens from St. Francis, Me. (Fernald), Rumford, Me. (Pailin), Wisconsin (Schnette), New Brunswick (Fowler), Beards-town, Ill. (Geyer).

About here it occurs in every place where *E. gracile* grows and in several localities where that does not. It grows often in water and sphagnum on water quaking bogs, while *E. gracile* prefers a firmer foundation. To summarize: It is about twice as tall as *E. gracile*, intermediate in robustness between that and *E. polystachyon*. The culms are more sharply angled, the leaves long, flat or channeled, while *E. gracile* has short, solid, bayonet-shaped ones. Its peduncles are rough and pedicels bristly, while both are smooth or nearly so in *E. gracile*. Its involucre scales are long bladed, scales lighter colored, cotton more copious and longer, and it is about five weeks later in fruiting.

SEABROOK, N. H., March, 1898.